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ABSTRACT

This paper examines the effect of enforcement of Equal Employment Opportunity (EEO) laws, between 1967 and 1974, on the earnings of females and males, and on the male/female earnings differential. Although discrimination in employment against women has been illegal for more than a decade, between 1967 and 1974 the male/female earnings differential remained virtually unchanged. The results presented in this paper show that the earnings differential would have widened by approximately 7 percentage points in the economy, and 13 points in the private sector alone, had it not been for the enforcement of Title VII of the Civil Rights Act of 1964 over this period. The paper begins by presenting a theoretical background for determining the expected effects of enforcement of EEO laws on earnings. It then specifies a model of firms' compliance with Title VII, and a model to estimate the impact of enforcement on the male/female earnings differential. Following that, the impact of enforcement between 1967 and 1974 on the earnings of individuals is estimated for the economy as a whole, and for the private and government sectors. Finally, the distribution of gains and losses in earnings due to enforcement across experience intervals and education classes is assessed. (Author)

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THE IMPACT OF EQUAL EMPLOYMENT OPPORTUNITY LAWS ON THE MALE/FEMALE EARNINGS DIFFERENTIAL

Andrea H. Beller

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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THE IMPACT OF EQUAL EMPLOYMENT OPPORTUNITY LAWS ON THE MALE/FEMALE EARNINGS DIFFERENTIAL

Andrea H. Beller
Institute for Research on Poverty
University of Wisconsin
and
The Institute for Independent Study
Radcliffe College

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ABSTRACT

This paper examines the effect of enforcement of Equal Employment Opportunity (EEO) laws, between 1967 and 1974, on the earnings of females and males, and on the male/female earnings differential. Although discrimination in employment against women has been illegal for more than a decade, between 1967 and 1974 the male/female earnings differential remained virtually unchanged. The results presented in this paper show that the earnings differential would have widened by approximately 7 percentage points in the economy and 13 percentage points in the private sector alone had it not been for the enforcement of Title VII of the Civil Rights Act of 1964 over this period.

The paper begins by presenting the theoretical background to determine the expected effects of enforcement of EEO laws on earnings. It then specifies a model of firms' compliance with Title VII, and a model to estimate the impact of enforcement on the male/female earnings differential. Following that, the impact of enforcement between 1967 and 1974 on the earnings of individuals is estimated for the economy as a whole, and for the private and government sectors. Finally, the distribution of gains and losses in earnings due to enforcement across experience intervals and education classes is assessed.

The Impact of Equal Employment Opportunity Laws on
the Male/Female Earnings Differential

Discrimination in employment against women and minorities has been illegal for more than a decade. Title VII of the Civil Rights Act of 1964, the Equal Employment Opportunity (EEO) title, became effective in July of 1965. Since the 1972 amendments to the law, Title VII covers employment practices in private firms with 15 or more employees, state and local governments, and educational institutions. Executive Order 11246, the nondiscrimination in employment order, also became effective in 1965, but the prohibition against sex discrimination was not included until October 1968. This order applies to employment practices among current and potential holders of federal contracts.

Despite the existence of these laws, between 1967 and 1974 the male/female earnings differential, measured in logarithmic terms, remained virtually unchanged at .68. One might be tempted to conclude from this statistic that the decade of enforcement of EEO laws has been a failure in reducing discrimination against women in the labor market. Yet there is an obvious explanation for the persistence in the earnings differential over this period. Because of the rising labor force participation rates of women, one would expect, ceteris paribus, an increase in the earnings differential. In general, new entrants into the labor market have less labor market experience than those already in and therefore command lower wages. That the earnings differential remained constant in the face of this significant trend in the labor force participation rate of women suggests that some underlying factors have been responsible. This study will show

that at least one such factor is the enforcement of Title VII of the Civil Rights Act of 1964; the male/female earnings differential would have widened by approximately 7 percentage points between 1967 and 1974 had it not been for the enforcement of Title VII.

In recent years, considerable attention has been devoted to the evaluation of the effects of EEO laws on employment and earnings. A substantial portion of the literature, especially the portion on earnings, focuses on the relative position of blacks. Further, the evidence concerning the effect of EEO laws on black earnings is mixed. Two time series studies (Freeman, 1973; Vroman, 1975), covering a period through 1972, show an accelerated upward trend in the earnings of blacks relative to whites after the passage of Title VII in 1964. Both studies attribute this acceleration to the passage of Title VII. A recent reworking of one of these studies (Butler and Heckman, 1977), however, casts considerable doubt on the interpretation that the upward trend in relative black earnings is due to Title VII. It appears rather to be the result of differential changes between blacks and whites in labor force participation rates. Two cross-sectional studies (Beller, 1975; Smith and Welch, 1975) show that between 1959 and 1969, enforcement of EEO laws--Title VII and federal contract compliance--reduced the earnings of black males relative to white males.

Although, in general, the literature does not focus on women, two recent studies (Goldstein and Smith, 1976; Heckman and Wolpin, 1976) do estimate the effect of the federal contract compliance program on employment by race and sex. Both come up with the same pessimistic finding: the effect of having a government contract during the early 1970s was to

reduce the employment of women, especially white women, among federal contractors. In contrast, this paper focuses on the effect of enforcement of Title VII of the Civil Rights Act of 1964 on the earnings of women and finds less pessimistic results concerning the potential of EEO laws to improve the relative economic position of women.

The following section presents a theoretical framework that suggests the expected effects of enforcement of EEO laws on the earnings of females and males, and on the male/female earnings differential. Next, a model of firms' compliance with Title VII is developed and model for estimating the impact of enforcement on the male/female earnings differential is specified. The empirical results are then presented and discussed with a summary of the results given in the concluding section.

Theoretical Background

The expected effects of enforcement of the employment provision and the wage provision of EEO laws on the earnings of women and men, and on the male/female earnings differential are analyzed separately because under Title VII they are enforced separately; consequently, incentives for compliance with them may differ. The analysis shows that the actual effects of enforcement on earnings may not be positive and may even be negative, particularly in the long run. The analysis proceeds under the assumption of competitive firms and industries.

The employment provision of EEO laws is designed to eliminate restrictions on the mobility of females into firms and occupations. Compliance

with this provision implies some ratio of females to males based upon the available pool of qualified labor;[1] that is, the law explicitly recognizes the concept of perfect substitutes in production. In its extreme form, the employment provision can be considered an involuntary quota. It should be noted, however, that under Title VII an actual quota need never be imposed on a firm. If firms comply voluntarily with Title VII, no quota will be imposed. Affirmative action plans, which are required under the contract compliance program, specify target employment ratios. Such plans are not required under Title VII, but may be the outcome of a conciliated or litigated settlement between a firm and the Equal Employment Opportunity Commission (EEOC) or the courts.

In order to predict the effects of enforcement of the employment provision of EEO laws on the male/female earnings differential, I refer to the theoretical work by Beller (1975) and by Heckman and Wolpin (1976). Consistent with the intent of Title VII, the former model assumes that the minority and the majority are perfect substitutes in production, and that firms are utility maximizers that get utility from profits and disutility from the number of minority group workers that they employ. The latter model utilizes a general production function that allows for imperfect substitution in production. It also assumes that firms are profit maximizers; the pecuniary or nonpecuniary costs that arise from discrimination against the minority group appear in the general cost function. The greater specificity in the assumptions of the first model result in less ambiguity in predictions about the direction of effects of enforcement of an employment provision.

The models just described yield predictions concerning absolute changes in the employment and earnings of women and men. These changes can be classified as short run--the period during which there is no entry

or exit of firms from the industry--and long run. Both models yield the unambiguous prediction that female employment will increase and female wages will tend to increase in the short run. Both also assume that firms covered by the program were in violation of the employment provision prior to its enforcement; hence, a short run increase in the demand for females relative to males will occur in the covered sector. If females and males are perfect substitutes in production, male employment will decrease and male wages will tend to be reduced. If they are less than perfect substitutes in production, male employment and wages need not decrease and may even increase in the short run.[2]

In the long run, however, if males and females are imperfect substitutes in production, and/or the disutility from employing women or the costs associated with having a workforce that is integrated by sex remain unchanged, the short run effects of enforcement of the employment provision can be reversed or exacerbated. According to these models, average costs of production will be higher, or average utility lower, at all levels of output than at the pre-quota equilibrium. In the long run, product price must rise to cover the higher costs or to compensate for the lower utility, and industry output must fall. Consequently, the demand for both men and women will be reduced. The employment of men must fall and the employment of women may fall below the pre-quota equilibrium. Hence, in the long run, male wages tend to be reduced and female wages may be reduced. The more price elastic the demand for the industry's product, the more likely that female wages will also be reduced.

Additional long run changes may occur as a consequence of enforcement of the employment provision of EEO laws that would mitigate the predictions

described above. The reasoning that causes one to expect these changes is a challenge to the assumption, inherent in these analyses, that at the pre-quota equilibrium firms are operating at optimal efficiency with respect to the utilization of women (Cain, 1976). By compelling employers to offer equal employment opportunities to women--workers with whom they may have had limited or no contact--EEO laws facilitate the acquisition of labor market information that can correct faulty beliefs about women workers, which may be derived from conditioning and other non-labor market sources. Tastes or preferences underlying discrimination against women may also be changed by the imposition of quotas. To the extent that information reduces psychic or perceived pecuniary costs associated with hiring women or integrating workforces, the long-run increase in costs or reduction in utility associated with enforcement of the law will be lessened. If women were perfect substitutes in production for men, and the wages of women were below those of men, direct wage and salary costs of production would necessarily be reduced by the imposition of a quota. If, in addition, all disutility associated with hiring women were eliminated, costs of production would fall and utility would increase. In this case, industry product price would fall, and output would increase, as would the demand for all factors of production.

Another long-run consequence of the imposition of a quota is an increase in the incentive for women to invest in their skills in response to the increase in opportunities. If discrimination in employment reduces the return to their skills, women may underinvest in their human capital relative to men prior to the imposition of the quota. Under these conditions, a reallocation of investment in skills could increase efficiency in

production and achieve greater social efficiency in the allocation of resources as well.

The analysis of the wage provision is drawn from Beller (1975). The wage provision is designed to eliminate wage differentials due to differences in sex, not productivity. Compliance requires firms to pay males and females equal wages for the same work and to provide them equal opportunities for promotion (to higher paying jobs). The predictions may again be classified into short run and long run.

Assuming that females were paid less than males in the covered sector prior to enforcement of the wage provision, relative wages should increase. If firms were in equilibrium before the wage adjustment, they will respond to this change in relative factor prices by substituting males for females. (Firms can accomplish this "legally" by changing their skill mix toward occupations in which males predominate.) The reduction in female employment in the covered sector will increase the supply of females to the uncovered sector, tending to reduce their wages there. The increase in male employment in the covered sector will tend to bid up male wages. Hence, in the short run, enforcement of the wage provision will tend to increase male wages, while the effect on female wages is ambiguous. Some females will get the high-wage jobs in the covered sector, while others will be forced to seek employment outside the covered sector, possibly at lower wages.

The increase in labor cost in the covered sector increases the long-run supply price and reduces the output of the perfectly competitive industry. The reduction in the size of the covered sector leads to a decrease in the demand for labor and to a tendency for the wages of both females and males to be reduced. Therefore, in the long run, the effects of enforcement

of the wage provision on the wages of females and males and on the male/female earnings differential are all ambiguous.

The overall effect of enforcement of EEO laws on earnings is the net effect of enforcement of the employment provision and the wage provision. Firms that comply with the wage provision, but maintain discriminatory preferences, may violate the employment provision. Firms that comply with the employment provision may or may not continue to violate the wage provision. Since the effects of the provisions may be opposite in the short run, and the effects of the wage provision are ambiguous in the long run, in the aggregate, the overall effects of enforcement of EEO laws on earnings are ambiguous for both time periods. The next section will consider why firms may be expected to respond to enforcement of these laws.

A Model of EEOC Compliance by Firms

As assumed in the preceding section, discrimination yields psychic and/or pecuniary gains to firms. Since the passage of Title VII and the implementation of the federal contract compliance program, employers in whose firms discrimination takes place have also been subject to the risk of psychic and pecuniary losses. These losses may take the form of extended court battles, back-pay settlements, and the like under Title VII, and the withholding or loss of federal contracts (though the latter sanction was not used until 1971) under the federal contract compliance program.

The consequences of discrimination can be eliminated by making the expected marginal penalties from violation of the law exceed the expected

marginal losses from compliance with it. In the long run, EEO laws can further reduce discrimination to the extent that they change tastes or eliminate faulty beliefs about the productivity of women workers.

The expected marginal penalties for discrimination vary across firms. They vary directly with the probability of apprehension given that a violation has occurred and with the probability that a firm will pay a penalty given a finding of discrimination. (The penalties for particular violations are assumed to be constant across firms during a given time period.) Under Title VII, the EEOC (or the state or local Fair Employment Practices Commission [FEPC] to which a charge has been deferred) attempts to achieve a settlement through a voluntary conciliation procedure. If this settlement is unsuccessful--that is, it does not meet the criterion set down by the EEOC--the case may be taken to court. Thus, there are two types of settlements that may be reached under Title VII, voluntary and litigated.

Proxy variables for the probability of apprehension and the probability that a firm will pay a penalty have been created from individual compliance records of charges filed with the EEOC. The proxy for the probability of apprehension is estimated by the ratio of the number of investigations of sex discrimination charges completed by the EEOC (or by state or local FEPC's to which a charge has been deferred) to the number of women who worked during 1970. This measure, the incidence of investigations, represents firms' awareness of enforcement activities. The greater the visibility of enforcement, the greater its deterrent effect and the greater its expected effect on earnings. The probability of paying a penalty is estimated by the ratio of successful voluntary settlements of sex dis-

crimination charges (successful conciliations plus successful pre-decision settlements reached by the EEOC or by state or local FEPC's to which a charge has been deferred)[3] to attempted settlements (all conciliations attempted plus successful pre-decision settlements).[4] Given the incidence of investigations, the greater the probability of successful settlement, the greater the expected marginal penalties for discrimination, and the greater the expected effect of enforcement on earnings. Aggregating the individual records, these variables have been constructed for the 23 state groups identified in the Current Population Survey (CPS), the primary data source, separately for private wage and salary and government employees.

The expected marginal penalties for discrimination were increased and the scope of the law's coverage was expanded by the March 1972 amendments to Title VII. By granting the EEOC the right to sue a respondent in the private sector, the amendments increased the probability that a firm involved in an unsuccessful conciliation would be taken to court. They also brought more employers under the law's jurisdiction--government, educational institutions, and firms with 15-24 employees--expanding the number of employers for which enforcement activities would serve as a deterrent. It is hypothesized that, as a consequence of these changes, both the probability of successful settlement and the incidence of investigations would have stronger effects on earnings in the period after Title VII was amended than in the period prior to amendment. In order to test these hypotheses, we constructed separate probability measures for pre-amendment enforcement, including data from January 1968 through March 1972, and for post-amendment enforcement, including data from April 1972 through December 1974. The mean values of

these variables for the 1974 CPS sample of working women are presented in Table 1. A ranking of the 23 state groups on each of the enforcement measures is presented in Appendix A.

Enforcement of the federal contract compliance program is measured by a single variable, the federal share of industry product, estimated by the ratio of purchases by the federal government to value-added originating in an industry. It has been hypothesized by Smith and Welch (1975, p. 10) that federal efforts on affirmative action are likely to be more successful in industries in which the government is a major purchaser than in industries in which government purchases account for only a small share of the total output.[5] This variable was constructed for 50 industry groups.

The next section specifies a model to estimate the effect of enforcement of EEO laws on the earnings of individuals and on the male/female earnings differential in the economy between 1967 and 1974. Although enforcement affects the behavior of firms, the effects should be realized in the earnings of individuals. Since individuals are mobile between firms, differential improvements in opportunities created by enforcement of EEO laws should be reflected in individual earnings. However, since individuals are mobile between sectors as well, much of an increase in demand due to enforcement could be reflected in employment rather than wages. The effect of EEO laws on wages does not, therefore, present an entire picture of the laws' effects. It is, however, the subject of interest here. The model that will be specified captures the total effect of enforcement on the earnings of individuals, including the direct effects of enforcement in firms that have been subject to compliance activities and the indirect effects of enforcement in firms that have changed their behavior in response to the deterrent effect of enforcement activities.

Table 1

Sample Mean Incidence of Investigations and Probability of Successful Settlement of Sex Discrimination Charges Under Title VII, Pre- and Post-Amendment

	Pre-amendment (1968-March 1972)	Post-amendment (April 1972-1974)	Difference of Means
Incidence of Investigations (per 1000 employed women[a])			
Total employment	.112	.311	+.199
Private sector	.144	.359	+.215
Government	NA	.147	NA
Probability of Successful Settlement[b]			
Total employment	.501	.541	+.040
Private sector	.646	.577	-.069
Government	NA	.418	NA

Source: Equal Employment Opportunity Commission charge inventory data.

Note: NA = Not applicable. Government employment as well as employment in educational institutions was not covered by Title VII until after the law was amended in March 1972.

[a]The base includes all women employed in private wage and salary and/or government positions during 1970.

[b]This probability is conditional upon a cause finding (of discrimination) and an attempted settlement.

Specification of Model of Male/Female Earnings Differentials

We have chosen as the basis for our model the human capital earnings function, which relates an individual's earnings to measures of his or her productivity. In addition to the usual human capital variables, we include the following in our equations: annual labor supply variables, which control for commitment to the labor market in a given year; marital status and other variables designed to control for the effects of previous periods of intermittent participation in the labor force; and measures of labor market demand, the local unemployment rate and variables measuring enforcement of Title VII and the federal contract compliance program.

In order to estimate the effect of enforcement on earnings growth, we specify a model of coefficient differences. Earnings functions are estimated separately for males and females for time periods before and after enforcement takes place. The vector of enforcement variables is included in both cross-sections. This specification is necessary because there may be a preexisting relationship between differences in enforcement and earnings across states. The relationship may be a causal one, such as higher wages in industries that sell a larger portion of their output to the federal government due, for example, to cost-plus pricing. Or the relationship may simply exist due to some third factor, not controlled for in the equation. For instance, the earnings of women may be higher and the demand for enforcement of Title VII greater in states where there is a great deal of social activism, a strong women's movement, or a greater willingness to reduce discrimination. To the extent that no structural change among these factors occurred during the period under study, coefficient differences on the enforcement variables between the

pre- and post-enforcement cross sections measure the impact of enforcement activities.[6] The model is specified as follows:

$$\ln W^S_{i,t} = b^S_t + E_{i,t}\,\beta^S_t + X^S_{i,t}\,\gamma^S_t + u^S_{i,t} \qquad (1)$$

$$\text{and, } \ln W^S_{i,t-1} = b^S_{t-1} + E_{i,t}\,\beta^S_{t-1} + X^S_{i,t-1}\,\gamma^S_{t-1} + u^S_{i,t-1} \; . \qquad (2)$$

where,

$\ln W_i$ = the natural logarithm of weekly earnings of the individual woman or man[7]

E_i = a vector of (j) enforcement variables assigned to each individual on the basis of geographic area and class of worker for Title VII, and industry of employment for federal contract compliance

X_i = a vector of control variables

β, γ = vectors of parameters on the enforcement and control variables, respectively

u_i = a disturbance term with the classical properties

and, S = sex, where F = females and M = males.

The estimated effect of each measure of enforcement on the earnings of females or males is equal to $(\hat{\beta}^S_{j,t} - \hat{\beta}^S_{j,t-1})$. The estimated effect of each measure of enforcement on the male/female earnings differential measured in logarithmic terms, $\ln(\bar{w}^M_t) - \ln(\bar{w}^F_t)$, is equal to $[(\hat{\beta}^M_{j,t} - \hat{\beta}^M_{j,t-1}) - (\hat{\beta}^F_{j,t} - \hat{\beta}^F_{j,t-1})]$. The percentage impact of enforcement on earnings will be evaluated at $\bar{E}^F_{j,t}$, the sample mean level of enforcement for females in the later year.

The equations are estimated for the economy as a whole, and for the private and government sectors separately. We perform the estimates by sector for the following reasons. First, employment in the government sector was not covered by Title VII until after the 1972 amendments. Furthermore, the 1972 amendments to Title VII gave the EEOC the right to sue private respondents, but not government respondents. Therefore, post-amendment enforcement in the government sector is not the same as

post-amendment enforcement in the private sector: the expected costs of violation are lower. It is actually more similar to pre-amendment enforcement in the private sector: in both instances, the EEOC does not have the right to sue, and enforcement is new and less widely used than in the post-amendment private sector (see the means on the enforcement variables in Table 1). The effect of enforcement may be non-linear with respect to enforcement longevity in a sector. The second reason is a technical one. For the entire sample, persons employed by the government are assigned a value of zero for pre-amendment enforcement. This value may not be equivalent to the concept "not covered."

The data sources for the earnings and control variables are the U.S. Census Bureau's Annual Demographic File of the 1975, 1972, and 1968 Current Population Survey (CPS). Included in the samples are all men and women who worked and had at least $100 in wage or salary income in 1974, 1971, or 1967. The self-employed are excluded. The sample of females numbers 23,634 in 1967; 23,273 in 1971; and 23,862 in 1974. The sample of males numbers 33,242 in 1967; 31,521 in 1971; and 30,023 in 1974. The female and male earnings functions for these years are presented in Appendix B, Tables 6 and 7, respectively.

Empirical Results

Estimated coefficient differences on the Title VII enforcement variables for the economy are presented in Table 2, and for the private and government sectors, in Table 3. Estimated coefficient differences, between the two years indicated, from the female and the male equations, and the male coefficient difference minus the female coefficient difference are presented in columns 1, 2, and 3, respectively. The numbers in parentheses are t-statistics for the significance of the difference between regression coefficients (columns 1 and 2) and between coefficient differences (column 3).[8] The results are presented separately for investigations and successful settlements, for pre- and post-amendment enforcement, and for pre-amendment enforcement, for the short run (1967-1971) and the long run (1967-1974).

In general, both investigations and successful settlements of sex discrimination charges under Title VII reduce the male/female earnings differential, although the effect is generally insignificant (column 3). The effect approaches significance more closely for settlements than it does for investigations, with the exception of post-amendment enforcement in the private sector. Further, investigations increase the earnings of both males and females (lines 1, 2, and 5). In the short run, settlements have an insignificant effect on female earnings and a negative effect on male earnings. In the long run, the negative effect of settlements on male earnings grows larger, and female earnings are reduced as well (lines 3, 4, and 6).

The most interesting contrast present is between the results for pre-amendment and post-amendment enforcement, especially for the private

Table 2

Estimated Effect of Enforcement of Sex Discrimination Charges Under Title VII on the Male/Female Earnings Differential, Total Employment

Measure of Enforcement	Earnings of Females	Earnings of Males	Earnings Differential
Pre-amendment (1968-March 1972)			
Investigations			
Short run (1967-1971)	+.146 (1.85)*	+.135 (2.37)**	-.011 (0.11)
Long run (1967-1974)	+.182 (2.23)**	+.131 (2.17)**	-.051 (0.52)
Successful settlements			
Short run (1967-1971)	-.008 (0.24)	-.053 (2.13)**	-.045 (1.11)
Long run (1967-1974)	-.079 (2.34)**	-.135 (5.30)***	-.056 (1.37)
Post-amendment (April 1972-1974)			
Investigations			
Short run (1971-1974)	+.058 (2.13)**	+.030 (1,43)	-.028 (0.83)
Successful settlements			
Short run (1971-1974)	+.024 (0.72)	-.029 (1.02)	-.053 (1.22)

Source: 1968, 1972, and 1975 CPS.

Note: For all tables, the numbers in parentheses are t-statistics for the significance of the difference between estimated regression coefficients.

*** Significant at the 1% level.
** Significant at the 5% level.
* Significant at the 10% level.

Table 3

Estimated Effect of Enforcement of Sex Discrimination Charges Under Title VII on the Male/Female Earnings Differential, Private Sector and Government Employment

Measure of Enforcement	Earnings of Females	Earnings of Males	Earnings Differential
Private Sector			
Pre-amendment (1968-March 1972)			
Investigations			
Short run (1967-1971)	+.038	+.107	+.069
	(0.39)	(1.53)	(0.59)
Long run (1967-1974)	+.105	+.044	-.061
	(1.05)	(0.60)	(0.51)
Successful settlements			
Short run (1967-1971)	-.039	-.039	-.001
	(0.97)	(1.41)	(0.02)
Long run (1967-1974)	-.123	-.162	-.039
	(3.09)***	(5.69)***	(0.81)
Post-amendment (April 1972-1974)			
Investigations			
Short run (1971-1974)	+.064	+.003	-.061
	(2.13)**	(0.11)	(1.66)*
Successful settlements			
Short run (1971-1974)	+.068	-.079	-.147
	(0.91)	(1.42)	(1.61)
Government			
Post-amendment (April 1972-1974)			
Investigations			
Short run (1971-1974)	+.066	+.153	+.087
	(0.55)	(1.49)	(0.55)
Successful settlements			
Short run (1971-1974)	-.014	-.077	-.063
	(0.28)	(1.79)*	(0.94)

Source: 1968, 1972, and 1975 CPS.

. . . . . Significance levels as in Table 2.

sector. In general, the short-run effect on earnings is more positive or less negative for post-amendment than for pre-amendment enforcement. For post-amendment enforcement, investigations significantly narrowed the earnings differential by significantly increasing female earnings and having no effect on male earnings (Table 3, line 5). For pre-amendment enforcement, investigations actually increased the earnings differential, although the effect is insignificant (Table 3, line 1). Post-amendment successful settlements caused a nearly significant reduction in the earnings differential as well (line 6). In the pre-amendment short-run period, they had no effect on the earnings differential (line 3). Finally, as expected, the effects of post-amendment enforcement on earnings in the government sector are more comparable to the effects of pre-amendment enforcement on earnings in the private sector than they are to those of post-amendment enforcement in the private sector.

Within the context of the theoretical framework presented in the preceding sections, the following observations and speculations can be made concerning the differing impacts of the probability of apprehension and the probability of successful settlements on earnings. The impact on wages discussed below is based upon the data, but the impact on employment is conjecture, based upon the theoretical framework adopted. The estimated effect of investigations, which are expected to serve primarily as a deterrent to violations, is consistent with the predicted effect of enforcement of the wage provision of EEO laws. The observed increase in male earnings due to enforcement may be the result of firms' substituting toward males in response to an increase in female earnings. As was shown in the theoretical section, the tendency to substitute toward males causes the

effect of enforcement of the wage provision on the earnings differential to be ambiguous. Consistent with this ambiguous prediction are the ambiguous findings concerning the effect of investigations on the earnings differential (positive in two out of seven cases presented in column 3 of Tables 2 and 3).[9] The estimated effect of successful settlements, which increase the expected marginal penalties for violation of Title VII and have a direct impact on the behavior of those firms involved, is consistent with the predicted effects of enforcement of the employment provision (involuntary quotas)--settlements reduced male earnings in the short run, and reduced the earnings of both males and females in the long run. On the one hand, increasing the probability of apprehension under Title VII appears to cause firms to comply with the wage provision--to pay women higher wages, but to substitute toward men. On the other hand, increasing the probability of successful settlement under Title VII appears to cause firms to comply with the employment provision--to increase their relative demand for women, but to reduce their overall demand for labor. (The difference in their effects may be due to the fact that once a settlement has been reached a firm may be required to adhere to an affirmative action plan.)

The federal contract compliance program was found to have had no measurable impact on the male/female earnings differential between 1967 and 1974 or between 1971 and 1974 (results not shown). The earnings of both males and females are higher the greater the federal share of value-added in their industry of employment, and both experience faster rates of earnings growth over the period as federal share increases. Since the earnings of men and women grew with increases in the federal share at

approximately the same rate, there was no significant effect of the contract compliance program on their earnings differential. These estimates, combined with the estimated negative effect of the contract compliance program on the employment of women found by other researchers, imply that women do not measurably benefit from affirmative action, and may even lose.

Turning now to look at the magnitude of the effect of enforcement of sex discrimination charges under Title VII on earnings, the results are quite striking. Table 4 presents the combined effect of all coefficient differences, whether significant or not, on investigations and successful settlements, evaluated at the mean level of enforcement in the later year. To determine the overall effect of enforcement on earnings between 1967 and 1974 (line 4), the pre-amendment long-run effect (line 2) is added to the post-amendment short-run effect (line 3).

Although between 1967 and 1974 the gross male/female earnings differential, measured in logarithms, remained unchanged at .68, enforcement of sex discrimination charges under Title VII narrowed the overall earnings differential by about 7 percentage points. It increased female earnings by 1 percent and reduced male earnings by 6 percent. The effects for the private sector are even more pronounced. While the gross earnings differential in this sector fell from .74 to .73 between 1967 and 1974, it would have widened by approximately 13 percentage points had it not been for the enforcement of Title VII during this period. Enforcement had no significant effect on female earnings and reduced male earnings by 14 percent in the private sector. In the government sector, the gross earnings differential increased by about 10 percent from .50 to .55 between 1971 and 1974. It was narrowed by enforcement of Title VII by a relatively small 2 percentage points. Female earnings were increased

Table 4

Computed Mean Percentage Effect of Enforcement of Sex Discrimination Charges Under Title VII on the Male/Female Earnings Differential, 1967-1974

	Earnings of		Earnings Differential
	Females	Males	
Total Employment			
(1) Pre-amendment short run	+1.22%*	-1.17%**	-2.39%
(2) Pre-amendment long run	-1.90%**	-5.31%**	-3.41%
(3) Post-amendment short run	+3.10%**	-0.62%	-3.72%
Overall Effect of Enforcement on 1974 Earnings = (2) + (3)	+1.20%	-5.93%	-7.13%
Private Sector			
(1) Pre-amendment short run	-1.96%	-1.03%	+0.94%
(2) Pre-amendment long run	-6.45%***	-9.83%***	-3.38%
(3) Post-amendment short run	+6.20%**	-4.48%	-10.68%*
Overall Effect of Enforcement on 1974 Earnings = (2) + (3)	-0.25%	-14.31%	-14.06%
Government Sector			
Post-amendment short run	+0.94%	-1.28%*	-2.22%

Source: Tables 1-3.

Note: The figures in this table show the combined effect of investigations and successful settlements, evaluated at their respective means, on earnings. They are computed from male and female earnings functions for 1967, 1971, and 1974, and are evaluated at the mean level of enforcement for females in the later year, 1971 or 1974. The earnings functions are presented in the appendix.

*** Computed from coefficient differences that are significant at a minimum of the 1% level.
** Computed from coefficient differences that are significant at a minimum of the 5% level.
* Computed from coefficient differences that are significant at a minimum of the 10% level.

by 1 percent and male earnings were reduced by 1 percent due to enforcement of Title VII in the government sector.

The percentage effect of the 1972 amendments to Title VII can best be seen in the results for the private sector. A comparison of lines 1 and 3 (Table 3) shows that approximately an 8 percent increase in female earnings and an 11.5 percent reduction in the male/female earnings differential can be attributed to the amendments. The 6 percent increase in female earnings due to enforcement in the post-amendment period contrasts favorably to the 2 percent reduction in female earnings due to enforcement in the pre-amendment short-run period.

It is instructive to interpret the findings in this table in the context of the theoretical background presented earlier and to offer some alternative explanations. As noted above, statements concerning wages are based upon the data, while statements concerning employment are based upon the theoretical background. The consistent narrowing in the male/female earnings differential across sectors and time periods suggests that enforcement of sex discrimination charges under Title VII increased the demand for females relative to males.[10] For the post-amendment period, the positive short-run effect of enforcement of sex discrimination charges on female earnings, along with no significant effect on male earnings, suggests that enforcement increased the demand for females, and/or increased their wages without causing a significant substitution towards males. The consistently negative effect of enforcement of sex discrimination charges on male earnings suggests that enforcement decreased the demand for males--net, firms appear to have substituted toward females.

The most interesting finding is the significant improvement between the pre- and post-amendment effects of enforcement on earnings in the private sector. The most important change brought about by the 1972 amendments to Title VII was granting the EEOC the right to sue a private respondent after failures of conciliation. In contrast, the EEOC was not given the right to sue a government respondent. In support of the hypothesis that it was this new power that increased the effectiveness of Title VII enforcement is the finding that post-amendment enforcement in the government sector is more similar in its effects to pre-amendment enforcement in the private sector than it is to post-amendment enforcement in the private sector.

Nevertheless, alternative explanations for the post-amendment success of the EEOC in increasing female earnings and in narrowing the male/female earnings differential cannot be ruled out. If discrimination against women were the result of tastes or faulty beliefs about the productivity of women workers, then post-amendment enforcement could reflect learning on the part of employers about the true characteristics of women workers. Moreover, given that EEO has been the policy for ten years, the relative success of post-amendment enforcement could be a consequence of an increase in the skills and qualifications of women. Women have had the time to acquire increased education and training in response to an increase in opportunities brought about by the enforcement of EEO laws. It is possible that firms previously met their EEO hiring goals by employing women with lesser skills. Seven years later, they meet their goals with no skill reductions (or with skill increases) because of supply responses by women to increased opportunities. These explanations would further suggest that we will not observe the same long-run negative effects on female earnings

for post-amendment enforcement that we observed for pre-amendment enforcement. Finally, the more positive effects of enforcement on earnings in the post-amendment period could reflect changes in priorities on the part of the EEOC toward women constituents as a consequence of the growth in the power of the women's movement. Since the above explanations are not mutually exclusive, the results may reflect the effects of any or all of them.

It is informative to examine the distribution of gains and losses in earnings from enforcement of sex discrimination charges under Title VII by experience interval and by education class. The samples of men and women were stratified by years of labor market experience and by education; separate regressions were run for each of these groups. Table 5 presents the combined effect on earnings of all coefficient differences and of significant coefficient differences only on investigations and settlements, summed over the pre-amendment long-run and the post-amendment short-run periods, evaluated at the mean level of enforcement in the later year. (The detailed figures on which these summary results are based are presented in Appendix B, Table 8.)

The primary gainers from enforcement of Title VII between 1967 and 1974 were high school graduate women. Their earnings were increased by between 1.3 and 3.9 percent due to enforcement over the period (columns 1-2, line 8). The primary losers from Title VII enforcement were males with 11 or more years of labor market experience, whose earnings were reduced by between 3 and 17 percent (columns 3-4, lines 3-6), and both females and males who had not completed high school. Their earnings were reduced by 6 to 7 and 9 to 11 percent, respectively (columns 1-4, line 7). The groups whose earnings

Table 5

Mean Overall Percentage Effect of Enforcement of Sex Discrimination Charges Under Title VII on the Male/Female Earnings Differential, By Years of Experience and Education, 1967-1974

	Earnings of				Earnings Differential	
	Females		Males			
	All Coefficient Differences	Significant Coefficient Differences	All Coefficient Differences	Significant Coefficient Differences	All Coefficient Differences	Significant Coefficient Differences
Experience Interval[a]						
0-5	-2.13%	-0.31	-0.48%	0.00	+1.64%	0.00
6-10	-3.74	-4.63	-2.54	0.00	+1.21	+5.46
11-20	+4.13	0.00	-7.10	-7.13	-11.24	-8.95
21-30	+7.24	0.00	-2.66	-3.35	-9.91	0.00
31-40	-0.96	-2.41	-3.87	-6.10	-2.91	0.00
41+	-0.93	0.00	-16.66	-13.19	-15.73	0.00
Education						
0-11	-7.42	-6.10	-8.59	-10.65	-1.17	-3.73
12-15	+3.93	+1.34	-3.92	0.00	-7.85	-3.68
16+	+0.60	0.00	-2.32	0.00	-2.93	0.00
Total	+1.20	+3.94	-5.93	-5.31	-7.13	0.00

Note: The overall effect of enforcement is the sum of the pre-amendment long-run effect and the post-amendment short-run effect of investigations and successful settlements combined. The detailed figures underlying these results are presented in the Appendix B, Table 8.

[a]Years of experience is defined as (Age-Education-6).

were unaffected by enforcement were males with 0-10 years of labor market experience, females with 11-30 and 41+ years of experience, college-educated females, and males with a high school education or more. By education class, the male/female earnings differential was significantly narrowed for all but those with a college education. By experience interval, the earnings differential was significantly narrowed for those with 11-20 years of experience, but it was significantly widened for those with 6-10 years of experience and possibly for those with 0-5 years of experience as well.

The results by experience (exposure) interval for women bear closer scrutiny. Significant earnings reductions due to enforcement were observed for women with 0-10 years of labor market exposure (average ages 18-30 years) and 31-40 years of exposure (average ages 48-57 years), while no significant earnings changes due to enforcement were observed for those with 11-30 years of labor market exposure. The women with 0-10 years of exposure are new entrants into the labor market and those with 31-40 years of exposure, reentrants into the labor market after the child-bearing and rearing years (approximately the years 11-30 of labor market exposure). To the extent that Title VII enforcement creates a premium for women, human capital theory suggests that the effects should be greatest for these cohorts of women. Firms are more likely to invest in workers with longer expected periods of continuous participation and such individuals are more likely to invest in themselves. Thus the earnings reductions for these cohorts appear to present a paradox. There are several possible explanations for these findings: (1) because they have the greatest career mobility, any reduction in demand for women due to enforcement affects the earnings of new entrants and reentrants most strongly; (2) successful enforcement of the

employment provision in the early period drew more women with lower qualifications into the labor force thereby reducing average measured wages; (3) more women entered training programs requiring greater components of foregone earnings. The evidence necessary to distinguish between these alternatives should be found in the future earnings profiles for these cohorts of women and in an analysis of changes in their employment.

The finding of earnings losses due to enforcement in the youngest cohorts of women is in direct contrast to the finding of no earnings losses only for the youngest cohorts of men. The pattern of earnings reductions across experience intervals for men suggests that, despite the enforcement of sex discrimination charges under Title VII, it was business as usual with respect to the hiring and training of young men. The pattern leads us to speculate that firms accommodate the new requirements for hiring women by the process of attrition. That is, as older men vacate positions, they are filled either by young men or by women. When older men search for new jobs they find stiffer competition than previously and must accept lower wages than they otherwise would have. Further, by filling jobs with younger, more highly-educated males, and by letting older males go, firms can increase the stringency of hiring standards for any particular job. By so doing, they may be more able to claim, if they so desire, that women do not meet the standards for the job, although women would have met the standards previously.

Conclusions

The major finding of this paper is that enforcement of sex discrimination charges under Title VII reduced the male/female earnings differential between 1967 and 1974 by about 7 percentage points overall and by about 14 percentage points in the private sector. This finding suggests that enforcement increased the demand for women relative to men. The earnings of women were not uniformly increased by enforcement, however. The only group of women who actually showed a net gain in earnings due to enforcement over the entire period were high school educated women, and their earnings were increased by only 1 to 4 percent.

The earnings of males were significantly lower in 1974 due to the enforcement of sex discrimination charges under Title VII during the preceding seven years. Enforcement appears to have decreased the demand for men. The largest losses occurred for older men and for men with less than a high school education. Of note is the finding that for the youngest cohorts of men and for men with a high school education or more, earnings were not reduced by enforcement.

The impact of enforcement under Title VII on earnings differs significantly between the two compliance measures. Increasing the probability of apprehension appears to cause firms to comply with the wage provision--to pay women higher wages, but to substitute toward men. Increasing the probability of successful settlement appears to cause firms to comply with the employment provision--to increase their relative demand for women, but to reduce their overall demand for labor. The federal contract compliance program was found to have no measurable impact on the male/female earnings differential.

Of significant note is the finding that post-amendment enforcement of sex discrimination charges under Title VII had a more positive or less negative short run effect on the earnings of females and males, and caused a more significant reduction in the male/female earnings differential, than pre-amendment enforcement. There was an advantage of about an 8 percent increase in female earnings and an 11.5 percent reduction in the earnings differential. That post-amendment enforcement was more successful at meeting the law's goals than pre-amendment enforcement may be attributable to the right to sue private respondents granted the EEOC by the 1972 amendments to Title VII. However, alternative explanations are possible as well. It was also found that, over the long run, pre-amendment enforcement reduced the earnings of both males and females. We have not yet seen the long run for post-amendment enforcement; the significant improvement in the short-run effects suggests that they may well be consonant with the intent of the law.

Appendix A

Ranking of State Groups on Title VII Enforcement Measures

Rank	Incidence of Investigations		Probability of Successful Settlement	
	1968 - March 1972	April 1972 - 1974	1968 - March 1972	April 1972 - 1974
1	D.C.	D.C.	Me., N.H., R.I., Vt.	Florida
2	Ohio	Ark., La., Okla.	N.C.	N.J.
3	Ala., Miss.	Texas	Conn.	Me., N.H., R.I., Vt.
4	Ill.	Ariz., Colo., Idaho, Mont., Nev., N.M., Utah, Wyo.	Florida	Mich., Wisc.
5	N.C.	Ind.	Ind.	Pa.
6	Ind.	Alaska, Hawaii, Oreg., Wash.	Alaska, Hawaii, Oreg., Wash.	Ind.
7	Ky., Tenn.	Iowa, Kans., Minn., Mo., Nebr., N.D., S.D	Ill.	Iowa, Kans., Minn, Mo., Nebr., N.D., S.D.
8	Ariz., Colo., Idaho, Mont., Nev., N.M., Utah, Wyo.	Florida	N.Y.	Texas
9	Ark., La., Okla.	Ala., Miss.	Ark., La., Okla.	Ky., Tenn.
10	S.C., Ga.	N.C.	Calif.	Ark., La., Okla.
11	Calif.	Ohio	N.J.	Conn.
12	N.J.	Mass.	S.C., Ga.	Alaska, Hawaii, Oreg., Wash.

Rank	Incidence of Investigations		Probability of Successful Settlement	
	1968 - March 1972	April 1972 - 1974	1968 - March 1972	April 1972 - 1974
13	Texas	Pa.	Ohio	Ariz., Colo., Idaho, Mont., Nev., N.M., Utah, Wyo.
14	Alaska, Hawaii, Oreg., Wash.	Ill.	Ala., Miss.	Ill.
15	Iowa, Kans., Minn., Mo., Nebr., N.D., S.D.	S.C., Ga.	D.C.	N.Y.
16	Florida	Conn.	Mich., Wisc.	S.C., Ga.
17	Pa.	Mich., Wisc.	Ariz., Colo., Idaho, Mont., Nev., N.M., Utah, Wyo.	Calif.
18	Mich., Wisc.	Ky., Tenn.	Texas	Del., Md., Va., W.Va.
19	Del., Md., Va., W.Va.	Me., N.H., R.I., Vt.	Ky., Tenn.	Ala., Miss.
20	Conn.	Del., Md., Va., W.Va.	Del., Md., Va., W.Va.	N.C.
21	N.Y.	Calif.	Iowa, Kans., Minn., Mo., Nebr., N.D., S.D.	D.C.
22	Mass.	N.Y.	Pa.	Ohio
23	Me., N.H., R.I., Vt.	N.J.	Mass.	Mass.

Appendix B

Table 6

Earnings Equations for Females in 1967, 1971, and 1974, for the United States

	1967		1971		1974	
Independent Variables	Coefficient	(t-value)	Coefficient	(t-value)	Coefficient	(t-value)
Constant	3.883	(64.29)	3.436	(72.90)	3.719	(75.20)
Education	.074	(35.47)	.080	(42.09)	.076	(38.46)
Experience	.034	(28.43)	.028	(26.19)	.032	(27.17)
$(\text{Experience})^2$	-.0006	(24.70)	-.0005	(20.61)	-.0005	(22.34)
South	-.038	(2.34)	-.048	(3.46)	-.061	(4.06)
North Central	-.006	(0.39)	-.036	(2.73)	-.050	(3.60)
West	-.011	(0.65)	-.064	(4.27)	-.065	(4.19)
SMSA	.185	(13.98)	.167	(16.82)	.144	(14.00)
Government	.166	(7.72)	.179	(9.55)	.138	(7.21)
Ln(weeks worked)	-.248	(27.11)	-.079	(10.06)	-.095	(11.46)
Part-time	-.751	(62.44)	-.870	(84.26)	-.868	(81.66)
Unemployment rate	.555	(0.79)	.993	(3.23)	1.292	(3.53)
Single	-.165	(11.17)	-.155	(11.95)	-.139	(10.31)
Other married	.025	(1.90)	-.019	(1.61)	.003	(0.28)
Number of children	-.035	(8.27)	-.030	(7.56)	-.033	(7.60)
Home specialization	-.191	(13.38)	-.129	(9.72)	-.138	(10.03)
Black (B)	.228	(2.00)	.252	(2.57)	.067	(0.63)
B * Education	.003	(0.59)	-.017	(3.38)	-.010	(1.67)
B * Experience	.0002	(0.16)	-.007	(7.39)	-.005	(4.74)
B * South	-.193	(5.94)	-.176	(6.13)	-.134	(4.41)
B * SMSA	.121	(3.43)	.065	(1.98)	.031	(0.88)
B * Government	.167	(4.29)	.129	(3.94)	.020	(0.58)

Table 6--Continued.

	1967		1971		1974	
Independent Variables	Coefficient	(t-value)	Coefficient	(t-value)	Coefficient	(t-value)
B * Ln(weeks worked)	-.173	(6.62)	-.023	(1.05)	.017	(0.72)
B * Part-time	.092	(2.69)	.035	(1.16)	.061	(1.83)
B * Number of children	.025	(3.18)	.034	(4.74)	.019	(2.17)
B * Home specialization	.084	(2.13)	.023	(0.64)	.084	(2.15)
Federal share of industry product	.307	(10.14)	.382	(12.06)	.389	(11.95)
B * Federal share	.042	(0.50)	-.119	(1.67)	-.023	(0.28)
Incidence of investigations						
1968-March 1972	-.01[illegible]	(0.17)	.136	(2.61)	.172	(3.05)
April 1972-1974	-.149	(6.64)	-.134	(7.05)	-.076	(3.88)
Probability of successful settlement						
1968-March 1972	.134	(5.41)	.126	(5.72)	.055	(2.41)
April 1972-1974	-.045	(1.70)	-.004	(0.18)	.020	(0.83)
R^2	.34		.43		.40	

Source: 1968, 1972, and 1975 CPS.

Table 7

Earnings Equations for Males in 1967, 1971, and 1974, for the United States

	1967		1971		1974	
Independent Variables	Coefficient	(t-value)	Coefficient	(t-value)	Coefficient	(t-value)
Constant	4.696	(108.15)	4.166	(110.18)	4.314	(106.06)
Education	.069	(58.82)	.068	(58.25)	.068	(53.44)
Experience	.045	(45.99)	.044	(46.48)	.046	(44.27)
$(\text{Experience})^2$	-.0007	(40.75)	-.0007	(41.67)	-.0008	(39.77)
South	-.082	(7.54)	-.067	(6.42)	-.055	(4.69)
North Central	.050	(4.61)	.029	(2.83)	.017	(1.51)
West	.001	(0.07)	-.027	(2.41)	-.060	(4.88)
SMSA	.151	(16.57)	.129	(17.05)	.114	(14.24)
Government	.008	(0.48)	.006	(0.37)	-.045	(2.72)
Ln(weeks worked)	-.330	(43.59)	-.114	(16.51)	-.097	(12.71)
Part-time	-.807	(63.14)	-.896	(75.73)	-.878	(70.36)
Unemployment rate	1.243	(2.62)	1.027	(4.39)	1.685	(5.80)
Single	-.527	(49.03)	-.421	(40.62)	-.401	(36.49)
Other married	-.214	(14.70)	-.178	(13.06)	-.170	(12.13)
Veteran	.057	(7.74)	.039	(5.38)	.035	(4.33)
Health	-.104	(6.39)	-.065	(3.65)	-.037	(1.87)
Black (B)	-.054	(0.64)	.142	(1.83)	-.003	(0.31)
B * Education	-.014	(3.79)	-.025	(6.61)	-.017	(4.00)
B * Experience	-.008	(2.98)	-.011	(4.15)	-.004	(1.40)
B * $(\text{Experience})^2$	.0001	(2.12)	.0001	(2.85)	.0000	(0.67)
B * North Central	.105	(3.89)	.070	(2.52)	.098	(3.21)
B * SMSA	.115	(4.46)	.118	(4.46)	.098	(3.33)

Table 7--Continued.

Independent Variables	1967 Coefficient	1967 (t-value)	1971 Coefficient	1971 (t-value)	1974 Coefficient	1974 (t-value)
B * Ln(weeks worked)	-.033	(1.49)	-.022	(1.10)	-.018	(0.82)
B * Part-time	.185	(5.01)	.125	(3.53)	.131	(3.42)
Federal share of industry product	.184	(11.02)	.205	(11.59)	.253	(12.59)
B * Federal share	.113	(2.27)	.095	(1.78)	.033	(0.56)
Incidence of investigations						
1968-March 1972	-.015	(0.38)	.120	(3.00)	.116	(2.59)
April 1972-1974	-.045	(3.00)	-.066	(4.59)	-.036	(2.31)
Probability of successful settlement						
1968-March 1972	.154	(8.74)	.101	(5.79)	.019	(1.00)
April 1972-1974	-.034	(1.68)	-.024	(1.23)	-.053	(2.58)
R^2	.51		.55		.53	

Source: 1968, 1972, and 1975 CPS.

Table 8

Computed Mean Percentage Effect of Enforcement of Sex Discrimination Charges Under Title VII on the Male/Female Earnings Differential, By Years of Experience and Education, 1967-1974

	Earnings of								
	Females			Males			Earnings Differential		
	(1) Investigations	(2) Settlements	(3) (1) + (2)	(4) Investigations	(5) Settlements	(6) (4) + (5)	(7) Investigations	(8) Settlements	(9) (7) + (8)
Experience									
0-5									
(1) Pre-amendment short run	+2.34%	-3.58%	-1.24%	+2.55%	+1.71%	+4.26%	+0.21%	+5.29%	+5.50%
(2) Pre-amendment long run	+3.13*	-7.94**	-4.81	+0.75	-1.48	-0.73	-2.38	+6.46	+4.08
(3) Post-amendment short run	+4.50***	-1.82	+2.68	+1.54	-1.29	+0.25	-2.96	+0.53	-2.44
Overall Effect of Enforcement on 1974 Earnings = (2)+(3)			-2.13%			-0.48%			+1.64%
6-10									
(1) Pre-amendment short run	+0.23%	+3.77%	+4.01%	+1.41%	-1.35%	+0.06%	+1.18%	-5.13%	-3.95%
(2) Pre-amendment long run	+0.39	+2.00	+2.39	+2.52	-2.69	-0.17	+2.13	-4.69	-2.56
(3) Post-amendment short run	-4.63**	-1.50	-6.13	+0.82	-3.19	-2.37	+5.46**	-1.69	+3.77
Overall Effect of Enforcement on 1974 Earnings = (2)+(3)			-3.74%			-2.54%			+1.21%
11-20									
(1) Pre-amendment short run	+3.05%	+7.79%**	+10.84%	-0.40%	-2.06%	-2.46%	-3.45%	-9.85%**	-13.30%
(2) Pre-amendment long run	+0.56	-0.88	-0.32	-0.71	-9.83***	-10.54	-1.27	-8.95**	-10.22
(3) Post-amendment short run	+0.37	+4.08	+4.45	+2.70**	+0.74	+3.44	+2.33	-3.35	-1.02
Overall Effect of Enforcement on 1974 Earnings = (2)+(3)			+4.13%			-7.10%			-11.24%
21-30									
(1) Pre-amendment short run	+1.86%	-1.01%	+0.84%	+1.10%	+1.22%	+2.27%	-0.76%	+2.23%	+1.47%
(2) Pre-amendment long run	+1.01	+0.22	+1.23	+2.57**	-5.92**	-3.35	+1.56	-6.14	-4.58
(3) Post-amendment short run	+0.84	+5.18	+6.01	+0.86	-0.17	+0.69	+0.02	-5.35	-5.33
Overall Effect of Enforcement on 1974 Earnings = (2)+(3)			+7.24%			-2.66%			-9.91%
31-40									
(1) Pre-amendment short run	+1.73%	-0.87%	+0.87%	+1.12%	-1.92%	-0.81%	-0.61%	-1.06%	-1.67%
(2) Pre-amendment long run	+2.35	-6.48*	-4.13	+1.68	-6.10**	-4.42	-0.67	+0.38	-0.29
(3) Post-amendment short run	+4.07**	-0.90	+3.17	+0.52	+0.03	+0.55	-3.54	+0.93	-2.62
Overall Effect of Enforcement on 1974 Earnings = (2)+(3)			-0.96%			-3.87%			-2.91%
41+									
(1) Pre-amendment short run	-0.54%	-6.47%	-7.02%	+2.41%	-8.53%**	-6.12%	+2.96%	-2.06%	+0.89%
(2) Pre-amendment long run	+1.03	-6.13	-5.10	+2.33	-13.19***	-10.86	+1.30	-7.06	-5.76
(3) Post-amendment short run	+0.51	+3.66	+4.17	-2.82	-2.98	-5.80	-3.33	-6.64	-9.97
Overall Effect of Enforcement on 1974 Earnings = (2)+(3)			-0.93%			-16.66%			-15.73%

Table 8--Continued.

	Earnings of						Earnings Differential		
	Females			Males					
	(1) Investigations	(2) Settlements	(3) (1) + (2)	(4) Investigations	(5) Settlements	(6) (4) + (5)	(7) Investigations	(8) Settlements	(9) (7) + (8)
	Education								
9-11									
(1) Pre-amendment short run	-1.87%	-1.37%	-3.24%	+2.17%*	-7.19%***	-5.02%	+4.04%**	-5.82%	-1.79%
(2) Pre-amendment long run	-0.82	-6.10*	-6.92	+4.98***	-15.63***	-10.65	+5.80**	-9.53**	-3.73
(3) Post-amendment short run	+0.28	-0.78	-0.50	+1.40	+0.66	+2.06	+1.12	+1.44	+2.56
Overall Effect of Enforcement on 1974 Earnings = (2)+(3)			+7.42%			-8.59%			-1.17%
12-15									
(1) Pre-amendment short run	+3.36%***	-2.08%	+1.28%	+1.06%	+0.25%	+1.30%	-2.30%	+2.33%	+0.02%
(2) Pre-amendment long run	+2.98**	-4.08*	-1.10	-0.70	-2.56	-3.26	-3.68**	+1.52	-2.16
(3) Post-amendment short run	+2.44**	+2.59	+5.03	+1.08	-1.74	-0.66	-1.36	-4.33	-5.69
Overall Effect of Enforcement on 1974 Earnings = (2)+(3)			+3.93%			-3.92%			-7.85%
16+									
(1) Pre-amendment short run	-0.59%	+3.86%*	+3.26%	+0.22%	+0.26%	+0.47%	+0.81%	-3.60%	-2.79%
(2) Pre-amendment long run	+0.36	-0.94	-0.59	-0.04	-0.69	-0.72	-0.39	+0.26	-0.14
(3) Post-amendment short run	+3.02	-1.83	+1.19	-0.21	-1.40	-1.60	-3.23	+0.44	-2.79
Overall Effect of Enforcement on 1974 Earnings = (2)+(3)			+0.60%			-2.32%			-2.93%

Source: 1968, 1972 and 1975 CPS, and EEOC charge inventory data.

Note: The figures in this table are computed from male and female earnings functions for 1967, 1971 and 1974 and are evaluated at the mean level of enforcement for females in the later year, 1971 or 1974.

***, **, * Based upon coefficient differences that are significant at the 1%, 5% and 10% levels, respectively.

NOTES

[1]For many jobs, the applicable ratio is that of females to males in the labor force; for other jobs, for example professional jobs, more sophisticated methods for determining availability are required.

[2]The increase would occur if the output expansion elasticity of women was greater than that of men (Heckman and Wolpin, 1976).

[3]The probability of successful litigation cannot readily be measured empirically because the EEOC does not maintain a record of litigation activities in its compliance file. To some extent, the effect of this variable will be picked up by the variable measuring voluntary settlements. It can be argued that firms would be more likely to settle voluntarily in areas where the probability of successful litigation after an unsuccessful settlement and the costs of litigated settlements are higher.

[4]A conciliation is attempted subsequent to a cause finding of discrimination. The probability of successful settlement is, therefore, conditional upon a finding of discrimination or upon an agreement by a firm to settle before a decision is reached. While agreeing to a pre-decision settlement may reflect a desire to avoid any further costs involved in an investigation, it is also likely to be based upon a presumption of cause. Therefore, the probability of successful settlement measure excludes those firms that are found not to have committed a violation.

[5]I wish to thank these authors for allowing me to use their data on government shares of industry output.

[6]This model does not take account of the possibility of simultaneous equations bias if the enforcement variables are endogenous. The data necessary to estimate such a model are not available. However, previous estimates on the effect of enforcement of Title VII on the weekly earnings of black males relative to white males found no significant difference between the two-stage least-squares and ordinary least-squares estimates (Beller, 1975).

[7]Weekly earnings are measured in nominal terms. Since the dependent variable is the natural logarithm of earnings, only the constant term in the regressions is affected.

[8]These t-statistics are calculated under the assumption that the covariance of the estimated coefficients is equal to zero.

[9]The finding that investigations between 1968 and 1971 caused an insignificant increase in the male/female earnings differential in the private sector is similar to findings from an earlier study. Using the incidence of charges filed with the EEOC per employee as the measure of Title VII enforcement, the study found that enforcement in 1968 and 1969 had a negative but insignificant effect on the earnings of black males relative to white males (a positive effect on the earnings differential). The study further decomposed the negative overall effect of enforcement into a significant negative effect from enforcement of the wage provision and a significant positive effect from enforcement of the employment provision. The effect of the wage provision clearly appears to have dominated the deterrent effect, measured by charges filed or investigations completed, of enforcement of Title VII (Beller, 1975, pp. 26-36).

[10]In fact, there is reason to believe that the magnitude of the effect of enforcement on the earnings differential, particularly in the long run, may be understated in these estimates. It is argued that enforcement increases the demand for women relative to men. In those states where demand increases more, there may be a supply response on the part of women from other states. Given a long enough time period to make the adjustment, women may migrate from low enforcement to high enforcement states. Of course, such a migration would have the effect of both limiting wage increases in high enforcement states and of increasing wages in low enforcement states, causing the effect of enforcement on the demand for women to be understated. In fact, if women were perfectly mobile across states (which is unlikely), these differential wage changes by degree of enforcement could be wiped out entirely. As we will see later, enforcement had no significant effect on the earnings of college-educated women and very little effect on the earnings of women with 0-5 years of labor market experience, relatively mobile groups. We have implicitly assumed in these estimates that enforcement's primary impact is on demand.

REFERENCES

Beller, Andrea H. "The Economics of Enforcement of Title VII of the Civil Rights Act of 1964." Discussion Paper #313-75. The Institute for Research on Poverty, The University of Wisconsin, October 1975.

Butler, Richard and James J. Heckman. "The Impact of the Government on the Labor Market Status of Black Americans: A Critical Review." Chapter 9 in Equal Rights and Industrial Relations (Madison, Wis: Industrial Relations Research Association, forthcoming 1977).

Cain, Glen G. "Comment." Industrial and Labor Relations Review 29 (July 1976): 572-576.

Freeman, Richard B. "Changes in the Labor Market for Black Americans, 1948-72." Brookings Papers on Economic Activity 4 (I:1973): 67-131.

Goldstein, Morris, and Robert S. Smith. "The Estimated Impact of the Antidiscrimination Program Aimed at Federal Contractors." Industrial and Labor Relations Review 29 (July 1976): 523-543.

Heckman, James J., and Kenneth I. Wolpin. "Does the Contract Compliance Program Work? An Analysis of Chicago Data." Industrial and Labor Relations Review 29 (July 1976): 544-564.

Smith, James P., and Finis R. Welch. "Black/White Male Earnings and Employment: 1960-1970." R-1666-DOL. Santa Monica: The Rand Corporation, June 1975.

Vroman, Wayne. "Changes in the Labor Market Position of Black Men Since 1964." Proceedings of the 27th Annual Meeting, IRRA. Madison, Wis.: The Association, 1975: 294-306.